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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,721	10/31/2003	Philip J. Pietraski	I-2-0433.IUS	1573
24374	7590	09/07/2005	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			EWART, JAMES D	
			ART UNIT	PAPER NUMBER
			2683	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/698,721	<b>Applicant(s)</b> PIETRASKI, PHILIP J.	
	<b>Examiner</b> James D. Ewart	<b>Art Unit</b> 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>06-28-2004</u> . | 6) <input type="checkbox"/> Other: ____  |

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### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3,6-14,17-25 and 28-31 are rejected under 35 USC 103(a) as being unpatentable over admitted prior art of applicant in view of Bergel (U.S. Patent Publication No. 2003/0017835)

Referring to claim 1, admitted prior art of applicant teaches a method for providing feedback regarding the quality of a communication channel which is transmitted between a transmitter and a receiver (0008 – 0010); the method comprising: transmitting a control communication from said transmitter to said receiver (0008), said control communication including information regarding the allocation of resources in a subsequent downlink communication (0008); receiving at said receiver said control communication and awaiting said downlink communication (0008); transmitting from said transmitter said downlink communication over a downlink channel (0009); receiving at said receiver said downlink communication (0009); performing at said receiver at least one current measurement on said downlink communication to determine the current quality of said downlink channel (0009); deriving, based on said performing step, a channel quality indication (CQI) (0009); and transmitting said CQI from said receiver to said transmitter (0010); but does not teach whereby said deriving step estimates the future quality of said downlink channel to derive said CQI.

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Bergel whereby said deriving step estimates the future quality of said downlink channel to derive said CQI (0021, 0024 and Figure 4B; 120, 130). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the admitted prior art of applicant with the teaching of Bergel whereby said deriving step estimates the future quality of said downlink channel to derive said CQI to provide an improved compensation technique for transmission over a channel (0010).

Referring to claim 12, admitted prior art of applicant teaches a method for providing channel quality measurements on a downlink communication channel transmitted from a receiver to a transmitter (0008 – 0010); the method comprising: monitoring said downlink communication channel at said receiver (0009); performing at least one current measurement on said downlink communication channel (0009); deriving an indicator of the quality of the downlink communication channel (0009); and transmitting said indicator to said transmitter (0010); but does not teach whereby said deriving step predicts the future quality of the downlink communication channel. Bergel teaches whereby said deriving step predicts the future quality of the downlink communication channel (0021, 0024 and Figure 4B; 120, 130). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the admitted prior art of applicant with the teaching of Bergel whereby said deriving step predicts the future quality of the downlink communication channel to provide an improved compensation technique for transmission over a channel (0010).

Referring to claim 23, admitted prior art of applicant teaches a method for providing channel quality measurements on a downlink communication channel transmitted from a

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receiver to a transmitter (0008 – 0010); the method comprising: monitoring said communication channel at said receiver (0009); performing at least one current measurement on said communication channel (0009); deriving an indicator of the quality of the communication channel (0009); and transmitting said indicator to said transmitter (0010); but does not teach whereby said deriving step predicts the future quality of the communication channel. Bergel teaches whereby said deriving step predicts the future quality of the communication channel (0021, 0024 and Figure 4B; 120, 130). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the admitted art of applicant with the teaching of Bergel teaches whereby said deriving step predicts the future quality of the communication channel. Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the admitted prior art of applicant with the teaching of Bergel whereby said deriving step predicts the future quality of the communication channel to provide an improved compensation technique for transmission over a channel (0010).

Referring to claims 2,13 and 24, Bergel further teaches including storing said at least one current measurement (0026 and Figure 4B).

Referring to claims 3,14 and 25, Bergel further teaches wherein said deriving step further includes retrieving at least one stored measurement and utilizing said at least one stored measurement and said at least one current measurement to derive said CQI (0049 and Figure 4B).

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Referring to claim 6 and 17, admitted prior art of applicant further teaches wherein said downlink communication comprises at least one data communication (0008).

Referring to claims 7 and 18, Bergel further teaches wherein said downlink communication comprises at least one pilot communication (0021).

Referring to claims 8,19 and 28, Bergel further teaches wherein said downlink channel comprises a plurality of downlink channels on which said measurements are performed (0046).

Referring to claims 9,20 and 29, admitted prior art of applicant further teaches performing measurements on at least one data channel (0008), but does not teach measuring a plurality of downlink channels. Bergel teaches measuring a plurality of downlink channels (0046). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of admitted prior art of applicant with the teaching of Bergel of measuring a plurality of downlink channels to provide an improved compensation technique for transmission over a channel (0010).

Referring to claims 10,21 and 30, Bergel further teaches wherein said plurality of downlink channels includes at least one pilot channel on which said measurements are performed (0021).

Referring to claims 11,22 and 31, admitted prior art of applicant further teaches performing measurements on at least one data channel, but does not teach measuring a plurality of channels including at least one pilot channel (0008). Bergel teaches measuring a plurality of

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channels including at least one pilot channel (0046). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of admitted prior art of applicant with the teaching of Bergel of measuring a plurality of channels including at least one pilot channel to provide an improved compensation technique for transmission over a channel (0010).

2. Claims 4,15 and 26 are rejected under 35 USC 103(a) as being unpatentable over admitted prior art of applicant and Bergel and further in view of Koorapaty et al. (U.S. Patent Publication No. 2003/0129992)

Referring to claims 4,15 and 26, admitted prior art of applicant and Bergel teach the limitations of claims 4,15 and 26, but do not teach storing said CQI. Koorapaty et al. teaches storing said CQI (0010). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Koorapaty et al. of storing said CQI to compare the predicted values with the measured values (0012).

3. Claims 5, 16 and 27 are rejected under 35 USC 103(a) as being unpatentable over admitted prior art of applicant and Bergel and further in view of Bruckert et al. (U.S. Patent No. 5,305,468)

Referring to claims 5,16 and 27, admitted prior art of applicant and Bergel teach the limitations of claims 5,16 and 27, but do not teach wherein said deriving step utilizes a linear predictive algorithm to derive said CQI. Bruckert et al. teaches wherein said deriving step

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utilizes a linear predictive algorithm to derive said CQI (Column 4, Lines 42-45). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of admitted prior art of applicant and Bergel with the teaching of Bruckert et al. wherein said deriving step utilizes a linear predictive algorithm to derive said CQI to provide a more accurate power control command (Column 1, Lines 47-49).

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Acker U.S. Patent No. 4,335,361 discloses variable gain amplifier.

Balachandran et al. U.S. Patent No. 6,108,374 discloses system and method for measuring channel quality information.

Carter et al. U.S. Patent No. 6,731,990 discloses predicting values of a series of data.

Sato U.S. Patent No. 6,088,324 discloses prediction-based transmission power control in a mobile communication system.

Thomas et al. U.S. Patent No. 6,665,271 discloses system for real-time prediction of quality for internet-based multimedia communications.

Stratis et al. U.S. Patent No. 5,953,669 discloses method and apparatus for predicting signal characteristics in a wireless communications system.

Uesugi U.S. Patent No. 6,404,827 discloses method and apparatus for linear prediction.

Yamato et al. U.S. Patent Publication No. 2001/0034239 discloses method and system for radio communications using mobile terminal moving route prediction.



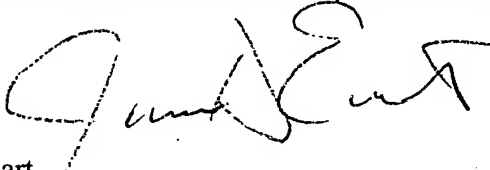
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2600.

  
Ewart  
August 29, 2005

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600